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## ABSTRACT

A study described, analyzed, and evaluated a project to rear three French-English bilingual children in a predominantly English-speaking environment. Using weekly tape recordings of spontaneous dinnertime conversation, a ratio of French-to-English utterances was calculated, and correlated with linguistically significant events documented in field notes. Increased French communication was closely associated with proximate immersion in French-speaking situations outside the home, as well as increased exposure to American television within the home. Using multiple longitudinal measures of academic achievement, including standardized achievement tests, grades, and intelligence tests, it was found that parental use of French only in the home has not hindered the children's English academic achievement. In addition, intelligence of the twin girls, measured with English diagnostic instruments, increased significantly over time. (Contains 39 references.) (Author/MSE)

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**A Case-Study in Family French-Immersion and Academic Achievement**

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**Abstract**

In this study the authors use qualitative and quantitative research techniques to describe, analyze, and evaluate their project to rear three French/English bilingual children in a predominantly English-speaking environment. The findings are interpreted in terms of major, related research in the field of bilingualism and academic achievement. Using weekly tape recordings of spontaneous dinnertime conversation, a ratio of French to English utterances is calculated, and correlated with linguistically significant events documented in field notes. Increased French communication is closely associated with proximate immersion in French-speaking situations outside of the home, while increased English communication is associated with exposure to English-only situations outside the home, as well as increased exposure to American TV within the home. Using multiple longitudinal measures of academic achievement including standardized achievement tests, grades, and IQ tests, our data indicate that parental use of French-only in the home has not hindered English academic achievement. Moreover, measured IQ (using English diagnostic instruments) significantly increased over time for the twin girls.

### A Case-Study in Family French-Immersion

Recently, there have been movements in some states, notably California, Florida, and Arizona, to have English designated as the state's "official language." The current fear among some Americans that English is threatened as the predominant language in our country is not a new one. As early as 1753, the venerable Benjamin Franklin expressed concern over the degree of German spoken in Pennsylvania (Castellanos, 1992). Language xenophobia in the United States has waxed and waned depending on such factors as immigration, war, the perceived threat of communism, and the economic climate. The "English-only" movement in the 1990's can probably be most closely linked to the massive non-English-speaking immigration to the United States which began in the 1980's, when literally millions of new immigrants flocked to the shores of the U.S. The wave of immigration to the U.S. during the past decade has been the largest movement of people to North America since the first decade of the twentieth century. Evidence that language xenophobia has reached a fevered pitch in the United States is manifested in actions like a recent court ruling from a state district judge in Texas, who ruled that it constituted child abuse for an Hispanic mother to speak only Spanish to her daughter within the home ("Speak English," 1995).

English has traditionally been seen as a primary tool for assimilating new immigrant groups into American society (Gordon, 1964). Moreover, the popular American view has typically been that to obtain proficiency in English requires the abandonment of non-English native languages. This attitude is exemplified well in

the American government's historical treatment of Native Americans. In a model government boarding school set up for Native Americans in Pennsylvania in 1879, students were forbidden to speak their native tongues, and were physically punished when they did (Portes and Schauffler, 1993).

Hand in hand with the American perspective that English-monolingualism is somehow superior to English speakers who are bilingual has been the belief that bilingualism hinders academic achievement (Portes and Schauffler, 1993). Neither is this perspective uniquely American. As far back as the 1920's, the European linguist Jespersen (1922) argued that bilingualism was a disadvantage because a child could learn neither language as well as he could learn just one. Jespersen justified his position by speculating that learning two languages unnecessarily taxed the brain. Reynold (1928), a German, stated that bilingualism lead to language mixing and language confusion, which in turn resulted in a decreased ability to think clearly. More recently, Weisgerber (1966) wrote that bilingualism was detrimental in part because humans were basically monolingual, and that being bilingual was like trying to belong to two religions at the same time.

From an even broader perspective, however, there seems to be a much older belief that speaking more than one language was an advantage. For example in the 1600's, the philosopher John Locke (1812) advocated teaching English children a second language (preferably French) as soon as they learned English. After they learned the second language, which he believed should only take a year or two, they should then commence to learn a third one. Ben Franklin, in spite of

his concern over German-speaking Pennsylvanians, credited his ability to speak French as a major advantage in his life (Franklin, 1932).

Contrary to the belief that speaking more than one language is somehow damaging to thinking processes, some modern research suggests that multilinguals may actually have more highly developed cognitive abilities than monolinguals. Balkan (1970) found that early bilinguals (before age four) scored significantly higher on tests of numerical aptitude, verbal flexibility, perceptual ability, and general reasoning than either later bilinguals or monolinguals. Peal and Lambert (1962) found that bilinguals who were matched with a control group of monolinguals performed significantly better than the monolinguals on both nonverbal and verbal IQ tests. They stated, "...it appears that our bilinguals, instead of suffering from mental confusion or a 'language handicap are actually profiting from a 'language asset.'" Scott (1973) found that bilingual English-Canadians demonstrated greater "divergent thinking" than a control group of monolinguals. Carringer (1974) reported that Spanish-English bilinguals scored higher than a control group of monolinguals in all aspects of creativity, verbal and figural fluency, flexibility, and originality. Janco-Worrall (1977) found that bilingual children have an earlier and greater awareness of the arbitrariness of language.

#### Geographic Setting of Study

South Louisiana is the setting for the current project to rear three children to be French/English bilinguals. Roughly 25 percent of the 1990 population of 4.6 million inhabitants identified their ancestry as French, Acadian, or French

Canadian, and more than 260,000 Louisianians indicated that they spoke French at home (U.S. Dept. of Commerce, Bureau of the Census, 1990). France claimed the territory of Louisiana as her own in 1682, and French settlers began arriving in a steady stream shortly thereafter. The largest single migration of French-speakers to Louisiana occurred from 1759 to about 1785 when thousands of exiled Acadians began arriving in what was then a Spanish colony. They had been expelled from areas of Canada now called New Brunswick and Nova Scotia. These *Cajuns*, a derivation of the word Acadian, and other French-speaking Louisianians maintained their French language even after the colony was purchased by the United States in 1803. In 1806 there was another massive migration of French-speaking individuals to Louisiana, this time about 9000 Creoles, 6000 of whom were Black, fleeing the revolution in Haiti (Brasseaux & Conrad, 1992).

Many of the French-speaking communities in Louisiana were tight-knit, and located in isolated, lowland areas of the state. They tenaciously clung to their language and heritage, referring to the English-speaking settlers who began arriving in the state as "*Les Américains*" well into the twentieth century. Throughout the 1800's and until about roughly 1920, entire communities in South Louisiana were filled with Cajuns and Creoles who still spoke no English. When Huey Long campaigned for governor in 1924 and 1928, he needed the aid of an interpreter when he gave his stump speeches in the Southwest region of Louisiana called Acadiana (Williams, 1969).

## French Language Threatened

Following the end of World War I, isolationist and anti-foreign sentiment in the United States was particularly strong. There was a movement throughout state legislatures to limit the teaching of foreign languages in schools. Whereas in the mid-west in states like Nebraska this sentiment was primarily anti-German (Alexander, 1980), in Louisiana it was decidedly anti-French. The Louisiana state legislature responded to this popular sentiment by passing legislation making it illegal to teach *in French* in Louisiana schools (Mazel, 1979). This marked the decline of the language in what is still an officially bilingual state.

Numerous older Cajuns have shared with the authors their experiences of being physically punished and mentally humiliated for speaking French while on school grounds. One Cajun woman from Pierre Part described to us how a Catholic nun ridiculed her on a regular basis for her pronounced French accent at school. She was also punished for using the French word "*mais*" which she habitually used to preface her sentences, and which said she was unable to stop saying. She was forced to write the phrase "I will not say 'mais' in school," hundreds of times, and often wrote the phrase before she was even punished, because she said she just knew she would slip up and say it anyway. Others told us of being paddled, or of having to put their nose in the corner of the classroom for speaking French at school. Some told us of whispering to each other in French, lest a school official hear them.

Those who spoke French were made to feel inferior to English-speaking

Louisianians. The daughter of elderly French-speaking woman told one of the authors that her mother so closely associated the French accent with ignorance, that she could not understand why Cajun governor Edwin Edwards was not ashamed to speak with such heavily accented English. Moreover, many Cajuns came to believe that not only was their English sub-standard, but so was their French. To this day, it is hard for us to initiate a conversation with a native French-speaking Louisianian without first hearing an apology for the way they speak. Their conversations with us often begin, "I don't speak the good French, non," or "Je parle pas le bon français." What many Louisiana French-speakers have never been told, however, is that their way of speaking is so unique that it has been classified as a language all its own: an indigenous language of Louisiana (Daigle, 1984).

#### Resurgence of French Pride

During the last thirty years, there has been a transformation in the way the Cajun French culture and language are viewed. For one, where there was once hostility to native French speakers, there is now a sense of urgency to preserve the threatened language (Caldas & Caldas, 1992). This is due in part to the formation of the organization "The Council for the Development of French in Louisiana" (CODOFIL) in the 1960's. Its primary goal is preserving the French language and culture of the state. There has been a major push to teach French in all elementary schools. Hundreds of French teachers have been brought into the state from Canada, Belgium, and France. Moreover, French immersion programs

have sprung up in several Louisiana parishes, where instruction is delivered primarily in French.

### Description of Family Project

This research is a description and evaluation of the authors' efforts to raise their three children to be French-English bilinguals in predominantly English-speaking Louisiana. It has not been an easy, or natural task. In April 1996, the boy was ten and the twin girls were eight. In (cite omitted) a detailed description is provided of the study's first five years. The evaluation of the study is based on data gathered especially during the last year and a half.

The mother in this study is a native French-Canadian with some Acadian ancestry, who came to Louisiana as a CODOFIL teacher in 1980. She spoke very little English upon her arrival in the state. The father is a native-born American citizen, also of Acadian descent, who spoke almost no French when he married his co-author in 1980. Both authors have since learned each other's native language, and consider themselves literate, fluent speakers of both French and English. The father studied in France, eventually minoring in French for his Master's degree. The mother learned English as a result of her near total immersion in the language in Louisiana.

Prior to our first child's birth in 1985, we determined that we were going to rear our children to be literate, French-English bilinguals, sparing them the enormous amount of effort we had to invest in learning a second. We were in

part motivated to pass on our common French heritage. Our goal was to rear our children as *infant* bilinguals, which Saunders defines as the simultaneous acquisition of two languages from birth (Saunders, 1988, p.13). This is distinguished from child, adolescent, and adult bilingualism in that with these other forms of bilingualism, the second language is learned *following* the acquisition of the mother tongue. Regarding bilingual proficiency, we adopted Darbelnet's (1976) definition of bilingual as ' . . . being equally at home and equally effective in two languages' ( p. 4).

At the time of the children's births, we were living in an all-English-speaking part of Louisiana. At first, our plan was that the mother would address the first born only in French, whereas the father would speak only English to the first-born son. We adhered to this approach for a year and a half.

The boy, who attended English-speaking day-care from three-months-old, began speaking at the age-appropriate level, but his first utterances were in English. Nevertheless, he understood perfectly well his mother's French and everyone else's English. We reassessed our strategy when the boy was a year and a half old. By this time, we felt that his exposure to English outside of the home was way in excess of the exposure to French from his mother. We therefore modified our plan, agreeing that the father, too, would speak only French to the boy (citation omitted) to more adequately equalize his exposure to both languages. For a short time thereafter, he began mixing French words with his English words (until about age 2). Then, he no longer confused the two

languages when he spoke, being able to clearly differentiate between French and English. Though able to speak complete French phrases, he had a decided preference for speaking English.

When the boy was two-years-old, the twin girls were born. As with the boy at this time, the girls were addressed only in French. They too were placed in day-care with the boy, where only English was spoken. The husband of the husband-wife care giver team was a Cajun who spoke fluently in French, but apart from occasionally greeting the kids in French in the morning with "Comment ça va, cher?" and saying "Au revoir" in the afternoon when they left, he preferred to address the children only in English. The girls were late to speak, something which is not unusual in twins (Savić, 1980), or for infant bilinguals (Saunders, 1984). As with the boy, the twins were able to understand perfectly well our French, and everyone else's English. When the girls did begin to speak at around age two, they also had a decided preference for speaking English, only occasionally uttering a French word. The children not only addressed us primarily in English, but the conversation amongst the three of them was almost exclusively in English.

We both agreed that what we truly wanted to see was that the communication within the family be predominantly in French. If we spoke to the children in French, then we expected them to answer us in French. We felt that since the children knew they did not have to speak in French to be understood, then they simply continued speaking the language to which they were exposed the

most: English. To remedy this situation, we felt that we needed to immerse the children in a situation where they would be forced to speak French. Having family contacts in French-Canada, where no English was spoken, the mother and son made a trip to Canada when the boy was three-years old. It was only for about two weeks, but when he returned, the boy had ceased speaking English, and addressed us predominantly in French for the duration of the summer, or about one month. Then, in the fall when he was re-immersed in the all-English day care, he gradually reverted to addressing us predominantly in English again.

Not only was there an inclination for the children to speak English: If we did not continually struggle, we too would lapse into speaking English within the home. We also noticed that we tended to mix English with our French, speaking what is called "franglais." We sensed the isolation from the rest of the French-speaking world, and that we ourselves were immersed primarily in English speaking milieus. In the neighborhood, the three children played with other children who spoke only English, and even within the house, when the television was on, we were bombarded with standard American English. In short, we knew that for us, achieving our goal was going to be a continuous battle.

One advantage which we did sense during this time was that for the most part, we were lauded for our efforts by friends and family. Even strangers would stop us in the store and comment on how they wished their Cajun parents or grandparents had taught them French. Thus, we were not confronted with the hostility which other language minorities have faced, similar to what is currently

experienced by Hispanics in other parts of the United States (Commins & Miramontes, 1989). Thus, neither of us was hesitant to speak French in public, something which we believe has contributed to the success of our program. Also, we think that the children have never acquired the negative stereotype formerly associated with French-speaking Louisianians. In fact, we have made a concerted effort to reinforce the idea that they are fortunate to speak French, and that many monolingual Louisianians would gladly trade places with them. Many of the fathers' relatives have praised the children for their ability to speak French, and at this time the children speak the language freely even when around their paternal relatives. We continue to take every opportunity to emphasize to the children the French-speaking heritage of the state, and their own French-speaking heritage in both Canada and Louisiana.

#### Need for Environmental Immersion

When the boy was four-years-old, and the girls were two, the entire family made another two-week trip to French Canada. From that summer to the present time (1996), the entire family has not missed one summer vacation in Canada. Indeed, due to a growing sense of this critical component of our project, we have gradually lengthened the period of time spent there. During each of the last three years, the children have spent about two months per summer in Québec.

The linguistic pattern during each of these summertime visits has been essentially the same: After two or three days, the children are always speaking primarily in French. By the end of the vacation, virtually all vestiges of English

have disappeared, apart from Anglicisms which have become part of the Québec language, such as "*Moi too*" and "*Fc:ile-cool.*" To provide for an even more intense French immersion experience, we enrolled the boy in one week of all-French speaking summer camp when he was in the first grade, and then for three weeks of all-French speaking summer camp when he was in the third grade. During these two stays he was at the camp twenty-fours hours per day, with no recourse to English. We noticed that on both occasions he picked up new vocabulary and Québec idioms that we would not have been able to teach him. Since we did not enroll the girls in the twenty-four hour summer camp program, the boy was exposed to more French during these two summers than were the girls. Beginning when they were in the first grade, and for each summer thereafter, we did enroll the girls in a Quebec summer day camp program which consisted of 3½ hours in the morning, and 1½ hours of swimming lessons in the afternoon,. These sessions lasted for one month. The boy, too, attended the day camp when not enrolled in the twenty-four hour camp.

In Québec, our family was in daily contact with several members of the mother's family, who were able to speak very little English. Four of these family members either were, or currently are, school teachers. They knew from the outset about our research project, and greatly encouraged us in it: they all felt deeply about the importance of preserving French in North America. We actively sought their frank input regarding their perceptions of our children's French-speaking abilities. From the beginning, they told us that the boy spoke better, and

more fluently in French than the girls. During the summer after the girls' year in kindergarten and the boy's year in second grade, the grandmother commented that during their first week in Canada, the girls hesitated often, and seemed to have great difficulty annunciating in French. She also noted, however, that they had no trouble understanding her. She added that after a week or so, that the girls had improved considerably in speaking their ability to speak French. The grandmother noted no such hesitation on the boy's part. She did, along with several other family members, note the presence of an American accent in the boys French speech.

Upon arrival back in the states from Canada each summer, the children always spoke primarily in French with the parents and each other, until they are once again re-immersed in the English speaking world of either day-care (when they were younger) or school (when they were older). Then, they gradually lapsed back into speaking predominantly English after a month or two. Thus, we concluded that summertime immersion in an all-French speaking environment was not enough to ensure that French would continue to be the predominate language of family communication throughout the whole year.

For the authors, these summertime trips to Canada were also linguistically refreshing, and needed. The mother's family noted on several occasions that the mother had incorporated many Anglicisms into her French speech, which were especially noticeable during the first days of a Canadian visit. Both authors have found that during each visit there were new French expressions we did not know,

or had forgotten, and thus had need to learn or relearn each year. Both of us found ourselves searching for words during the first few days of total French-immersion in Canada when carrying on a face-paced conversation with a native. The father has typically not been able to spend as much time in Canada as the rest of the family, often flying up weeks after everyone else. Upon his late arrival, his coauthor is always struck by how much English the husband mixes with his French on the first few days of his stay, even though the husband is unaware that he was speaking anything but French. We believe that this mixing of English with French is indirect evidence that we have not been speaking as much French at home as we thought we were.

#### French-Speaking Media

In order to provide additional exposure to French apart from family communications, we slowly built a library of high-interest French-speaking video-cassettes. This included the Canadian series "Téléfrançais" which the children liked very much, and which we played very often. We also acquired the French versions of several feature-length Disney films, including "The Little Mermaid" (*La Petite Sirene*), Star Wars (*La Guerre des Etoiles*), Beauty and the Beast (*La Belle et La Bête*), and Snow White (*Blanche Neige*) which the children also watched many times.

Upon returning from Canada during the summer of 1994, we began to explore the possibility of purchasing a satellite dish and receiver, so that we might receive French-Canadian channels. In this way, we reasoned, we could increase

the exposure to French within the household.

#### School, Media, and Community French-Immersion

Early on in our family project, we acknowledged the importance which a school French-immersion program could play not only in our efforts to teach our children how to speak French, but also how to read and write it as well. The wife is a French-immersion teacher with first hand evidence of how well children can learn to read and write a second language when they are immersed in it in an academic setting. However, initially we were living in a part of Louisiana where such school programs did not exist.

Our fortune changed during the fall of 1994, when the father accepted a university position in Lafayette, the capital of French Louisiana. Shortly thereafter, the family moved to a Louisiana community which had a French immersion program, and in January 1995 we promptly enrolled the girls (grade 2) and the boy (grade 4) in it. We moved into a home which already had a satellite dish, and were immediately able to begin receiving French television programming from both Canada and France. We decided to leave the television tuned to the Quebec station, so that when the TV was on, it was in French. As encouragement to keep our resolve, we did not connect the antenna to receive the local television stations for about one year.

As a further boost to efforts to immerse our children in French, we were pleasantly surprised to discover that French is still spoken in the rural Cajun community to which we had moved. According to the 1990 U.S. Census, fully

one third of the residents of our community indicated that they "did not speak English well." The community is about two-thirds white (the majority of whites identified themselves as either of French or French Canadian descent). The other third of the community is African American, many of whom are Creole (of French-speaking descent) and speak a Creole-French dialect traceable to French Haiti of the nineteenth century (Brasseaux & Conrad, 1992). One is still able to hear French spoken in the local stores, post-offices, and at community functions. Even better for us, we discovered that several of our neighbors spoke French, and were happy to converse with us in their native tongue. There are also several local radio stations that broadcast at least part of the day in French. Moreover, when we finally hooked up our local antenna, we discovered some local TV programming was in French as well. In short, there is a major emphasis on the preservation of French in Acadiana, as the French-speaking region of Louisiana is referred to.

#### Turning the Corner

In the spring of 1995, all three children were enrolled in school French-immersion programs, where several hours of each day's instruction was in French. Their teachers were native French speakers from France (for the girls) and Belgium (for the boy). Not only were they now exposed to French in the classroom as well as at home, but even the bus driver spoke to them in French. Those residents in our neighborhood who could, also spoke to our children in French, and openly praised the children for their linguistic ability. In the evening, we watched the

Canadian news in French, and on Saturday mornings, the children watched French cartoons. On Saturdays, our radio was often tuned to the local public radio station which played French-African-American Zydeco music. On Sundays we tuned into the same station for a day of French Cajun music, where the D. J. spoke predominantly in French. On both Saturday and Sunday evenings we watched feature-length films on either Québec or French TV. Our sense was of much less linguistic isolation, and that we were all speaking much more French. In fact, the father's family noted that the children, especially the boy, began speaking English with a Cajun-French accent. We also incorporated some Cajun words and phrases into our repertoire of French, like "*Pas de quoi*," (you're welcome) and "*asteur*" (now). At the university, the father was able to speak French with several of his Cajun faculty members and a variety of support staff, white and black, who were native to Acadiana. Following the 1995 spring semester in their school French-immersion projects, we had the children's Louisiana French-teachers complete a survey on the children's French proficiency.

With the children now learning to read and write in French, we decided to try and enroll the children in a French-Canadian school for the final three weeks of the Québec school year in June 1995, when we would be on our summer vacation. Upon arriving in Canada on June 2, we explained to the school's director about our family project, and he heartily agreed to let us enroll the children in his school. The girls attended their age-appropriate second grade-class, while the boy attended his age-appropriate fourth-grade class. For three weeks,

the children attended the school daily, participating in the same activities as their French-Canadian peers. At first the girls were hesitant about attending, but after a few days all three children looked forward to going to school each day. Following the three weeks of total school immersion, we asked their teachers to fill out questionnaires regarding the children's French proficiency. For the remainder of the summer of 1995 the children attended day camp in the mornings, and swimming lessons in the afternoon, all in French.

In the fall of 1995, the girls, were re-enrolled in a third-grade French immersion program. There was no French-immersion program for the boy, now a fifth grader. We conducted the evaluation of our family project in the spring of 1996 when the boy was 10 years eight months old, and the girls were 8 years, eight months old.

#### Research Evaluation Questions

After almost eleven years of our family project to rear three children to be French-English bilinguals, we have decided to evaluate the success of our program. We formulated the following set of questions to help focus our evaluation:

- 1) How much French have the children been speaking within the household?
- 2.) How, and under what conditions has the proportion of French to English oral communications fluctuated?

- 3.) How and to what measurable degree did moving to French-speaking Louisiana and concurrently enrolling the children in French immersion programs effect their French communications within the household?
- 4.) How, and to what measurable extent did summertime immersion in French-speaking Québec effect the children's communications within the family?
- 5.) Have the children's academics suffered as a result of the predominantly French-speaking home environment?
- 6.) Do the children speak French with an American accent?
- 7.) How bilingual are the children?

#### Evaluation

##### Research Methodology

We attempt to answer the previous research questions using a combination of qualitative and quantitative research tools. The research approach taken is in part a summative, "in-house" evaluation of the effectiveness of the bilingual project at mid-course, and adheres to the standards defined by the Joint Committee on Standards for Educational Evaluation (1994). It is a formative evaluation to the extent that it provides the authors information for the refinement and improvement of the project, which is on-going (Worthen & Sanders, 1987). The principal author is a certified program evaluator.

From the qualitative perspective, we use field notes, open-ended teacher-survey responses, and transcriptions of audio-taped family conversations. From

the quantitative perspective, we use author-constructed Likert-type teacher-survey responses, academic/diagnostic test scores, academic grades. Following a suggestion by McLaughlin (1978), also had IQ tests administered at two different periods, and compare the results. We use Edelman's "Contextualized Measure of Degree of Bilingualism" (1969) in order to determine language dominance in three areas of the children's lives, as well as to longitudinally track the ratio of French to English spoken during dinnertime conversations.

Beginning in August 1994, we began audio-taping our children's conversations. At first, it was not all that systematic, but after a couple of months we developed our current strategy of taping ten-minute weekly snippets of family communications, predominantly around the dinner table, and usually during the evening meal. Family dinnertime conversations are very important social contexts within which language socialization takes place (Blum-Kulka, 1994). When the children asked about the recorder on the table, we responded truthfully that we were taping their conversations to study how they were learning to speak both French and English. After a couple of weeks, they almost never seemed to notice the tape recorder, it had become such a normal fixture on our dinner table.

The authors analyzed the tape recordings by listened to five-minute clips of each recording session from December 1994 through March 1996, and tabulating the number of French and English words uttered by the boy separately, and the girls together (trying to make a distinction between the twins' audio taped speech was too difficult). Then, we added together the total number of French and English

words spoken each month, and used Edelman's formula to calculate a French to English ratio in order to determine overall language dominance for each month.

The first author collected years of written field notes on his observations of the family's efforts to attain bilingualism. These are analyzed and interpreted (Blum-Kulka, 1994; Lincoln & Guba, 1985; Worthen & Sanders, 1987; Wolcott, 1994). Both the written and recorded data allow for a rich description of the various contexts within which the children have been acquiring their two languages (Ellen, 1984; Heath, 1983; Wolcott, 1994), as well as accurate documentation of precisely what they have been saying and how they have been saying it.

#### How much French?

We first address question one, regarding how much French the children have been speaking within the household. Analyzing weekly tape recordings from December 1994 to March 1996 we are able to plot the ratio of French to English spoken around the dinner table. We can then analyze the trends in terms of the linguistically significant events in the life of our family. In this way, we can venture an answer to questions one through three.

We are also able to determine the effect summer immersion in Québec has had on French-English family communications, as well as the influence of French-immersion school programs on household French communications. Figure 1 plots the ratio of French to English from December 1994 through March 1996.

[insert figure one about here]

December 1994 was a significant period in our family bilingual project. At the end of November, the family had moved from all-English speaking Louisiana to the heart of French speaking Louisiana. Thus, December's audiotape recordings capture the linguistic condition of the children at the very beginning of this chapter in the family's history. December was to be their last month in English-speaking school. At this time we also began viewing French programming on TV via satellite, and listening to local French programming on the radio.

#### School-Performance

##### John

As noted in the literature review, there has been a camp of linguists and others who believe that bilingualism can be detrimental to school performance in the language of instruction. This has most emphatically not been the case with the three children. Below we take a longitudinal look at the children's academics, beginning with John.

When John was three-years-old, we began showing him flash-cards of both English and French words, which we kept separate. He seemed to learn them easily, quickly building a word recognition-vocabulary of over 20 French and 20 English words. When the boy was four, he entered an all-English-speaking pre-school, where he did quite well. During the first parent-teacher conference in the

fall, after about two months of school, we were surprised to learn that the teacher was unaware that John was bilingual: apparently it was so natural for him, he had never mentioned to her that French was spoken in the home. The teacher indicated to us that there were no developmental problems whatsoever with John, and that he was doing quite well for a child his age. The teacher gave him a kindergarten readiness test at the end of the pre-school year on which he scored highly in all measured domains. He then passed the screening for entry into all English-speaking kindergarten, where he again did well. In fact, to the present time (he was in the fifth grade in the 1995-96 school year) he has never had difficulty in English-speaking schools, where his grade point average has consistently been above 3.5 on a four-point scale. In the fourth grade, his overall average was 4.0.

Nor has home French immersion seemed to have adversely effected the level of his observed IQ. During the first grade John was administered the Wechsler Intelligence Scales battery of tests (in English) by a certified psychologist (Ph.D.) in order to determine his cognitive abilities. The same psychologist administered the age appropriate Wechsler Intelligence Scales three years later when the boy was in the fourth grade. On both occasions his full scale measured IQ was about two-standard deviations above the mean, or roughly at the overall 98th to 99th percentile. Thus, if family French-immersion has in anyway been detrimental to the development of his English, it is unlikely that he would have done as well as he did, or that his measured IQ would have been so consistent

after a three-year period of time. Though we can only speculate, with our data it would be easier to defend the argument that bilingualism actually boosts measured IQ.

From January 1995 through June 1, 1995, John was enrolled in a local fourth grade French-immersion program. He completed the program with a 4.0 average. We administered a survey we constructed to his Belgian French teacher (see attachment A) in order to gauge his proficiency in written and spoken French. The survey consists of 10 Likert-scale items measured on a scale of one to five, with five indicating "*très capable*" (very capable) in French ability. There was also room for additional teacher comments.

Out of a possible 50 points (10X5), John received a 38. He received the highest marks in the areas of French expression, and the lowest mark (1) in ability to utilize correct French grammar. The teacher indicated that he did not have an American accent at all (5). The teacher wrote the following comment (translated from French):

John would be very capable of functioning in a French school from the point of view of oral [spoken French]. Writing is not his strength.

Since we never made much of an effort to teach the children French reading and writing skills, his poor showing in this area was not particularly surprising to

us, especially since he entered the immersion program at mid-year. In June of 1995, we enrolled John in a French-Canadian school for three weeks, asking that no special privileges be shown him. The teacher was very understanding and sympathetic to our bilingual project. She indicated to us that John integrated easily into the group, quickly becoming very popular with the tight-knit rural French-Canadian fourth graders. He was given homework, like everyone else, and though he complained, we made him do it. He did so well on a spelling test, better than most in the class, that the students gave him a warm round of applause. Following his three weeks of class, we asked his teacher to complete our survey on him. She graded his overall capabilities slightly less well than his French teacher in Louisiana (35 out of 50), giving him the highest marks in French expression (5) and lowest mark (2) in written French. The Québec teacher gave John a much lower rating (2) regarding the presence of an American accent. This, combined with the fact that several Québec family members noted that John had an identifiable American accent, suggests to us that he indeed has one when he speaks French. This teacher added the following comment (translated from French):

The greatest difficulty for John is at the level of grammatical construction. Example: the gender (masculine-feminine) is confused. On the other hand, the oral and written syntax are correct.

Upon returning to Louisiana, John was enrolled in a regular English-speaking fifth grade class. He had no trouble at all with his studies, averaging 3.9 on a four-point scale. In short, John has done very well in his English schoolwork, though much less well in written French. Even so, both his Louisiana and Québec French teachers indicated on our survey that they thought John could function in a francophone school at his grade-level.

Valerie and Stephanie

The girls were administered the Wechsler Intelligence Scale battery of tests by an independent psychologist (Ph.D.) to determine their measured IQ when they were 4 years 8 months old, and then again when they were seven years and 5 months old. On the first occasion, Valerie had a measured Full IQ scale at the 87th percentile; Stephanie's full scale IQ was a measured at the 90th percentile. These two scores were within the standard error of measure, indicating that their "true" IQ's were within the same range. When the girls were re-administered the Wechsler Intelligence Scales three years later by the same psychologist, Valerie's measured Full Scale IQ was at the 98th percentile, and Stephanie's was at the 97th. Again, both were within the standard error of measure, indicating that their true IQ's fell within the same range, and could therefore be the same. Thus, as with John, home French immersion has clearly not hindered their overall measured intelligence. Indeed, given the substantial increase in both girls measured IQ over time, it is possible that this improvement is linked to their bilingualism. Since their brains have been "mapped" for two languages, perhaps doubling the number of

neural connections in the part of the brain which controls language, this increased brain activity could translate into higher cognitive functioning (Begley, 1996; Carringer, 1974; Scott, 1973).

At the age of four, the girls, too, attended pre-school, where they performed well. At the end of the year they also did well on the Houghton Mifflin Reading Readiness Test, scoring above average in all ten measured domains. They both then passed another screening test for entry into kindergarten. During a speech-screening test given while they were in pre-school, a speech pathologist detected that Stephanie was having difficulty pronouncing the English /ɹ/. At the time we speculated that this might be due to exposure at home to the French uvular [R], and decided not to seek therapy. Eventually, she had no problems pronouncing either the English /ɹ/ or the French [R].

At the end of the first grade, when both girls were 6 years 11 months old, they were administered the Stanford Achievement Test Series by their school. Valerie scored above average in every test domain, having a complete battery score in the 95-98 percentile range. Stephanie scored average or above average in every test domain, having a complete battery score in the 75-76 percentile range. In language, both girls scored above the 90th percentile. In short, their English-language skills apparently did not suffer, though, apart from homework assignments, no effort was expended in the home to teach the girls English language skills.

Until the present time the twins have done well in school, attaining a grade

point average consistently at or above 3.5 on a 4 point scale (the twins were in the third grade during the 1995-96 school year). Since entering into the French immersion program, their grades for both French and English have consistently been above 3.5 on a 4 point scale.

At the completion of their semester of French immersion in the Louisiana school, we asked the twin's French teacher, who was from France, to complete our survey on Valerie and Stephanie. Her responses for both girls were identical. Of the 50 total points possible on our Likert scale survey, both girls were awarded 45. Their highest scores (5 out of 5) were in spoken French and French comprehension. They received marks of four on all the rest of the questions, including the question about the presence of an American accent (4). The teacher commented (translated from French):

No problem with oral expression. The only reserve I have concerns reading and written expression.

As with the boy, in June 1995 the twins were immediately enrolled for three weeks in a French-Canadian elementary school, with the request that the teacher make no special provisions for them. They were placed in the age appropriate grade (second grade). At first Stephanie was not at all happy with this idea, and resisted to the point of tears having to attend a new school yet again. After a few days, however, she was actually looking forward to attending the

elementary school. Following the three weeks of total school French-immersion, we asked the twins' Québécois teacher to complete our survey. Ironically, though the girls' Louisiana teacher gave them higher marks than the boy's Louisiana teacher, the girls' Québécois teacher awarded them lower marks than the boy's Québécois teacher. Stephanie received a 32, and Valerie a 29. Both girls received low marks (2) in understanding and responding to the teacher. The only "5" awarded was in the absence of English words from their spoken French. They were awarded 3's as regards the presence of an American accent, suggesting that to a native French-speaking Québécois, they probably have a detectable American accent. The teacher wrote in a comment that both girls do not read well-enough to excel on their own grade level (second grade at that time) in a French-speaking school.

In the fall of 1995, the girls were enrolled in another French-immersion program in a Louisiana school. The program included four hours of instruction in French-only (including mathematics, science, spelling, reading, writing, and social living), and two hours of instruction in English (spelling, phonics, and reading). They have done well, having report card grades which average above 3.5 on a scale of 4.0. During this school year, their regular French teacher (a Québécois) took 2 months of maternity leave. She was temporarily replaced by another Québécois teacher. We had both teachers complete our survey on their abilities in French.

The temporary immersion teacher awarded both girls identical marks, for a

total of 31 out of 50 points. Her highest marks were in understanding the teacher (4), and her lowest marks were awarded in "general written expression" (1).

Thus, in her opinion, the girls did not write well at all in French. However, as regards the presence of an American accent, both girls were awarded 4's, which suggests that this teacher did not detect much of an American accent. Moreover, regarding their ability to function in a French school at their own level, the teacher also awarded the girls 4's, suggestion that she believes they are capable of functioning well in a French-only academic environment.

#### French Speaking at Home

In order to determine the percentage of French spoken by the children at home, we began taping conversations around the dinner-table beginning in August 1994. Using a small cassette recorder, we attempted to make one ten-minute recording per week. The recorder was in plain view of the children. When asked why we were recording at dinnertime, we were frank with the children, and explained to them that would analyze the tapes to see how both their English and French was developing. They only rarely commented about the presence of the recorder. Though they knew we wanted them to speak French, this factor was a constant from week to week, and therefore allows valid weekly comparisons in terms of increasing or decreasing French language dominance around the dinner table over time.

Together we analyzed the recordings by listening to five-minute clips together, and marking down the number of French and English words that we heard the boy and the girls utter. Since it is so difficult to distinguish the girls from each other on tape, we did not differentiate between them, but tallied their words together. We believe that it makes sense to view the girls together for other reasons as well. For one, they are the same age, and have been spoken to by us in French since birth. For the boy, the father addressed him in English until age one and a half. Also, the girls are almost inseparable in play at home, and at school have been in the same French immersion classrooms. Moreover, since they are identical twins, they are as physically and genetically similar as two human beings can be.

For this study, we analyzed these recordings from December 1994 through March 1996. This was a significant period in our bilingual project. January marked the beginning of school French-immersion for all three children in Louisiana. Thus, we have a benchmark measure of the percentage French spoken at home just before entry into the program. We continued our recordings through their two-month stay in French-speaking Canada, and back again in Louisiana. This strategy has enabled us to determine the following:

- 1.) whether Louisiana school French immersion correlates with increased spoken French at home,
- 2.) whether the stay in French Canada correlates with an increase in spoken

French.

3.) whether re-immersion in American culture after a summer in Québec correlates with a decrease in the amount of French spoken in the home

4.). whether removing the boy from school French-immersion correlates with decreasing spoken French compared to the girls who remained in a school French-immersion program.

In order to increase rater reliability, the total of both authors' weekly tabulations for the month are added together and divided by two. This procedure doubles the reliability of our measure (Crocker & Angina, 1986). Using the same formula as Edelman's Measure of Bilingualism, we calculate the ratio of French to English spoken at the dinner table per month. The values can range from zero (no French) to 1.0 (only French). A value of .50 would indicate a perfect balance between French and English words. Finally, a total ratio for the whole period is calculated to give us a global index of French language dominance over the period.

[insert Figure 1 about here]

As can be seen in Figure 1, during the month prior to the beginning of school French immersion, and immediately upon moving to French Louisiana, the boy had a score of .11 -- the vast majority of his words were English. The girls had an average score of .41, indicating that they spoke much more French than

John. January marked the beginning of school French-immersion for all three children. The ratio of French spoken by John jumped up to .50 -- a perfect balance -- whereas the girls' score unexpectedly fell to .18. In February, the boy's score moved up yet again to .73, whereas the girls score remained a low .17. Perhaps this is explicable due to the fact that both girls were in the same class and are such close friends. They may have drawn even closer to each other in their new, strange environment, resisting integration into their new classroom. The boy, however, had no such option: he had to assimilate into the new, French-speaking classroom and make new friends. However in March, after three months of school French immersion, the boy's score peaked at .76, whereas the girls' combined score soared to .88. This may in part be an indication of their adjustment to their new situation. They were doing well in their new school, and told us that they liked it as well as their previous school. The boy, however, had some difficulties quickly integrating into the group, and told us that he preferred his previous, all-English speaking school, and friends.

In April, the boy's score fell for the first time since French school immersion, to .33. The girls' score also fell, to .48. In May, both the boy's and the girls' scores fell yet again, to .04, and .15 respectively. Thus, though there did seem to be a correlation with the French immersion program and the children's propensity to speak French at home, the effect did not seem to last the whole semester. It's also worth noting that the children were only in 2½ hours of school French at this time.

At the beginning of June, all three children went to Canada, and were enrolled for three weeks in an all-French-speaking Québec school. Both the boy's (.72) and the girls' (.98) ratios jumped back up. The girls had almost stopped speaking English. During the month of July, the children remained in the all French-speaking environment of Québec. The tape recordings indicate that the boy had almost stopped speaking English (.97), whereas the girls did not utter even one English word on tape (1.0).

The children returned to Louisiana around August 10. Still, for the month of August, almost all of the children's speech was in French. In September, when the girls continued in a school French program which now offered 4 hours of French immersion per day, their French-speaking at home remained very high (.97). The boy, for whom there was no longer a French immersion program, still spoke only French on our recordings (1.0). In October, however, the boy began to speak more English around the table (.80). There was only a very slight decrease in French speaking for the girls (.92). In November the proportion of French spoken by the boy continued to decrease (to .66), whereas the girls' score even rose slightly (to .96). In December the girls continued their high rate of French-speaking, and the boy's ratio inexplicably jumped up to .89.

We made only one recording during the entire month of January 1996, and the boy uttered only two words at this taping session, so we've excluded January from our analyses. By February 1996, the boy's French speaking had fallen off considerably (to .26), and then dived even further in March (to .09). Following

their high score of .95 in December, the girls French speaking also fell considerably in February (.37), rising only slightly in March (to .45).

Thus, by the first part of 1996, the boy's French speaking had plummeted to almost nil, from almost all French in August 1995 upon his return from Québec. The girls, too, were speaking much less French, though still considerably more than the boy. This is in all likelihood attributable to their school French-immersion program. One important behavioral change during this period which could account for the slump in French-speaking is the sudden interest all three children developed in regularly watching several American TV programs. After school, they started watching "Full House," "Batman" and on Friday's, "Goosebumps." The boy is even claiming that he'll be a nerd if we do not let him watch "The Prince of Belaire," because he will not be able to talk about it at school with his friends at school. We have determined that some kind of action must be taken to limit American TV watching, and increase the amount of time the set is tuned to French-speaking channels.

#### "Snapshot" Measure of Bilingualism

In February and March 1996, we employed Edelman's Degree of Bilingualism measure in order to determine which language was dominant in three areas of the children's lives: the home, the school, and the neighborhood. The measure is employed by asking each child to name as many things he or she can think of, in forty-five seconds, in each of these three domains. This is done

separately for each of the two languages. The following formula is used to calculate a ratio of English to French dominance:

$$\left( \frac{\text{Number of French words} - \text{number of English words} + 1}{\text{Larger of the two}} + 2 \right)$$

Numbers greater than 0.5 indicate French dominance; numbers less than 0.5 indicate French dominance. Table 1 shows the results.

[insert Table 1 about here]

Even though these figures only give a rough approximation of language dominance, they do provide us with some additional information. First of all, we see that for all three children French is more dominant in the home domain than the other two, being almost balanced in February. Secondly, we see that for all three children, in every domain, French dominance decreased from February to March. This decrease corresponds directly with the increased American television viewing, lending support to the observation that TV watching might be negatively influencing the children's propensity to speak French in the home.

## Conclusions

Taken as a whole, the data indicate that the three children speak both languages well. Nevertheless, though our project aim is to eliminate the speaking of English in the home, we have clearly not achieved this end. Other data indicate that the children are definitely more proficient in reading, writing, and speaking English. It is not surprising that they read and write much more proficiently in English, since this has been the primary language of instruction for most of their formal schooling.

Contrary to the historic fears of some who believe that rearing children bilingually retards a child's acquisition of the majority language (referred to as the "prize fallacy" by Clyne, 1974, p. 65; espoused by Weisgerber, 1966, and many other early researchers), our experience thus far has been quite the opposite. On both criterion and norm-referenced measures of proficiency in English reading, writing and comprehension, the three children all score well above the average in every domain tested, though the majority of their English has been acquired outside of the home, and indeed we have made every effort to speak *no* English at home. Moreover, the academic grade-point-averages of all three children in their American schools have consistently been above 3.5 on a four-point scale. Our experience has been akin to the neighboring bilingual Vietnamese in New Orleans who are having more success in school than their fellow immigrants who speak only English (Bankston & Zhou, 1995). Indeed, the project results are consistent with the findings of some research which suggests that infant-bilinguals (those

who learn two languages from birth) score significantly higher on several measures of cognitive ability (Peal & Lambert, 1962; Balkan, 1970; Snow, 1992).

The children's school French-immersion experiences correlate closely with increased French-speaking at home. Moreover, immersion in French-Canada seems to be even more highly correlated with the children's propensity to speak French. Indeed, their English-speaking was almost extinguished as a result of their extended stay in Québec. Also, there was a strong residual effect once they returned to the United States, with the ratio of French to English remaining high for several months, even with John, who was no longer in school French immersion.

The emphasis of the project at this stage is in ensuring that the children learn to read and write the French language as proficiently as francophone children at the same age/grade level. To this end, the three children were enrolled in French-immersion school programs in Louisiana in January 1995, where 2½ hours of the daily instruction was in French. This amount increased to four hours during the 1995-96 school year for the girls, although there was no program for the boy at the school in which the three were enrolled. The boy will be in a middle-school French bilingual program beginning in the fall of 1996, for 1½ hours per day. This is an accelerated language program, and will last for three years. Whereas partial academic French-immersion has clearly helped some, the authors believe that at least some total immersion in an all French-speaking academic setting is required to ensure native-like acquisition of French reading and writing skills.

As our family project progresses, we have become increasingly aware that the children do not speak French as well as native French-speakers in Canada. We are also aware of Saunders' observation regarding his efforts to rear his three children to be German-English bilinguals. He stated:

. . . it is highly unlikely that their children will speak their home language as well as children in the linguistic homeland or as well as they speak the dominant language of the country in which they now live. (p. 151).

Still, at this point, our goal remains unchanged: to rear our children to be equally proficient in both languages. We agree that this might require us to totally immerse our children in French for an extended length of time. We are currently exploring the possibility of spending a year in French Canada, where the children would attend all French-speaking schools. Perhaps we may have to take even more drastic measures within the home, like banning all English-speaking television. Socially, however, this may not be a realistic option. The best we may be able to hope for is strictly limiting the amount of American TV they watch, while ensuring a steady stream of French programming. Our biggest challenge may be ahead of us, as our children approach adolescence, and feel increasing pressure to conform to their peer cultures, which are not francophone, but American. We believe that we will have to maintain very close ties with our

children, while at the same time dealing delicately with the language issue, so that they do not rebel completely against our efforts to ensure their bilingualism.

Finally, we have come to the opposite conclusion of those Americans who are worried that English speaking in America is somehow threatened. If the dominant environment in the neighborhood and in the school is English, then it is the minority home language that is threatened, not English. Our experience has been that it takes continuous, concerted effort to ensure that children become proficient in the home language, and if they are to speak it spontaneously. To suggest that it is somehow criminal to speak to children at home in a language other than English, is itself ridiculous. In our opinion, this kind of thinking has not perpetuated English as the dominant language of the United States. Rather, it has fueled the linguistic xenophobia which has periodically swept the country, and continues to endanger our rich linguistic heritage.

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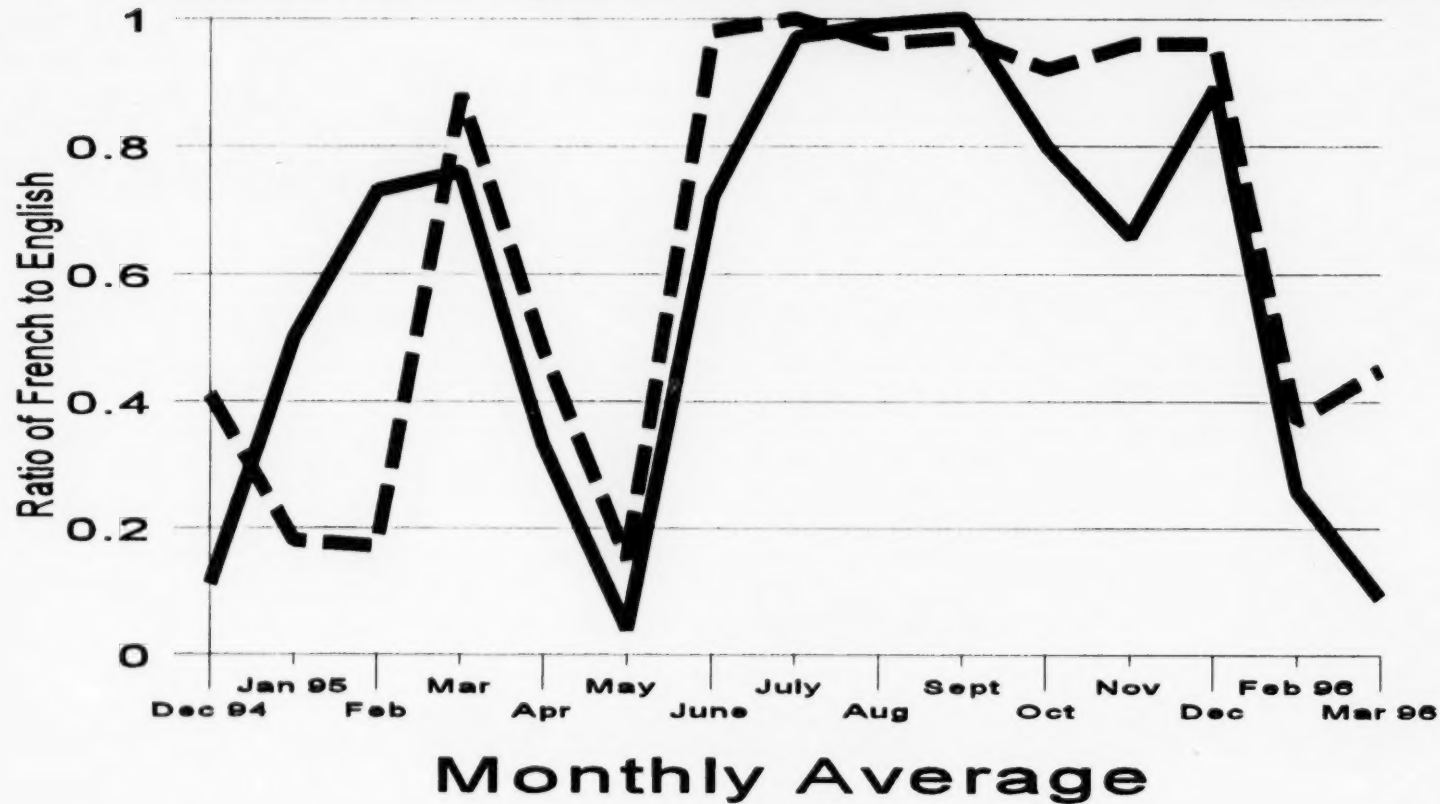
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**Figure 1**

Family French Immersion

**Ratio of Spoken French to English**



—————

John

- - - - -

Girls

| Table 1                                        |               |               |               |               |               |               |
|------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Edelman's Measure of French Language Dominance |               |               |               |               |               |               |
|                                                | John          |               | Stephanie     |               | Valerie       |               |
| <i>Domain</i>                                  | <i>Feb 96</i> | <i>Mar 96</i> | <i>Feb 96</i> | <i>Mar 96</i> | <i>Feb 96</i> | <i>Mar 96</i> |
| Home                                           | .50           | .35           | .54           | .39           | .56           | .40           |
| School                                         | .42           | .30           | .40           | .28           | .41           | .30           |
| Neighborhood                                   | .40           | .38           | .40           | .30           | .55           | .40           |